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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,892	07/07/2004	Kazuya Tanaka	254578US0X PCT	8791
22850 7590 01/11/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER CAMERON, ERMA C	
			ART UNIT	PAPER NUMBER
			1762	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/11/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/500,892

Applicant(s)

TANAKA ET AL.

Examiner

Erma Cameron

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 31 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The term "carboxymethoxychitosan" is used at page 10, line 6 as opposed to "carboxymethylchitosan" in claim 31. The term "glycerylated" is used at page 10, line 8 as opposed to "glycerated" in claim 31.

One or the other must be the correct term in each case.

3. Claims 19-23, 25-34 and 36-39 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a composition or method wherein there is present a carboxyl-containing molecule, does not reasonably provide enablement for a composition or method that lacks the carboxyl-containing molecule. The specification does not enable any

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person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

It appears from a reading of the specification (in particular pages 8 and 13-14) and from pages 6-7 of the 2/6/2006 amendment where it is described how an acid such as a carboxylic acid is needed to make the chitosan water soluble so that the chitosan-metal complex can form, that a carboxyl-containing molecule is critical to the claimed invention.

The applicant has argued in the 10/2/2006 that the disclosure shows how to make and use the claimed invention without undue experimentation, but that does not mean that the claims are allowed to lack features that are critical to the claimed invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 20: "by subjected chitin" does not make sense.

Claim Objections

6. The objection to Claim 5 under 37 CFR 1.75(c), is withdrawn because this claim has been canceled.

7. The objection to Claim 11 is withdrawn because this claim has been canceled.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. The rejection of Claims 1 and 3 under 35 U.S.C. 102(b) as being clearly anticipated by Kobayashi et al (Bokin Bobai, 23(12), pp 741-744, 1995) is withdrawn because of the amendment filed 10/2/2006.

10. The rejection of Claims 1, 3 and 6 under 35 U.S.C. 102(b) as being clearly anticipated by Wang et al (Guangpuxue Yu Guangpu Fenxi 19(6), pp 817-820, 1999) is withdrawn because of the amendment filed 10/2/2006.

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11. Claims 19-20, 22-23, 25, 27-30, 33-34, 36 and 38-39 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sugama et al (Journal of Materials Science, 34, pp 2003-2014, 1999).

Sugama teaches modified and unmodified chitosan, with a degree of acetylation of 75-85%, in an aqueous solution with Ce nitrate as a coating on Al surfaces. The modification is with DEX (glucose). After application, the coating is heated to 150 - 200 degrees C (see Abstract, pages 2003-2009).

12. Claims 29-31 and 33 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hon et al (Journal of Applied Polymer Science 77, pp 2246-2253, 2000).

Hon teaches an aqueous solution of carboxymethyl chitosan and zinc sulfate (see Abstract and pages 2246-2247).

13. Claims 19, 21, 23-24, 29-30, 32 and 34-34 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Boston (5348799).

'799 teaches an aqueous composition of chitosan, alkylated or not, an oxide such as titania, an acid such as acetic or maleic, and a polymer such as acrylic (1:52-5:48).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 26 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugama (Journal of Materials Science, 34, pp 2003-2014, 1999).

Sugama is applied here for the reasons given above.

It appears that the coating weight on the Al substrate overlaps with that claimed by applicant.

16. Claims 20, 25-26 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boston (5348799).

'799 is applied here for the reasons given above.

'799 teaches that the coating is dried at 40-120 degrees C after application (5:45-48), which overlaps with applicant's claimed range.

It would appear that the chitosan has the same degree of deacylation as claimed by applicant as the chitosan is described as being obtained from chitin by deacylation (5:1-19).

It would appear that the coating weight overlaps that claimed by applicant, as the starting solutions are similar.

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Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erma Cameron whose telephone number is 571-272-1416. The examiner can normally be reached on 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ERMA CAMERON
PRIMARY EXAMINER

Erma Cameron
Primary Examiner
Art Unit 1762

December 25, 2006